

Title (en)
Low-viscosity allophanates having actinically hardenable groups

Title (de)
Niedrigviskose Allophanate mit aktinisch härtbaren Gruppen

Title (fr)
Allophanates à faible viscosité comprenant des groupes à durcissement actinique

Publication
EP 1634902 A1 20060315 (DE)

Application
EP 05018640 A 20050827

Priority
DE 102004043539 A 20040909

Abstract (en)
Preparation of radiate-hardening, allophanate group containing binding agents (I), comprises reaction of uretdione group containing compounds with hydroxy functional compounds, further reactive compounds related to isocyanate groups in presence of catalyst of compounds containing e.g. tetrasubstituted ammonium-/phosphonium salts and optionally auxiliary materials and additives, under opening of the uretdione rings to allophanate groups. Preparation of radiate-hardening, allophanate group containing binding agents (I), at 130[deg]C comprises reaction of (a) one or more uretdione group containing compounds with (b) one or more hydroxy functional compounds, exhibiting the effect of actinic radiation with ethylenic unsaturated compounds under polymerization of reacting groups (radiate-hardening groups), (c) optionally further reactive compounds related to isocyanate groups in presence of (d) catalyst of one or more compounds containing at least a tetrasubstituted ammonium- or phosphonium salts of an aliphatic or cyclo-aliphatic carboxylic acid and optionally auxiliary materials and additives, under opening of the uretdione rings to allophanate groups. Independent claims are also included for: (1) a radiate-hardening, allophanate groups containing binding agents, obtained by the method; (2) coating agent comprising (I), optionally one or more polyisocyanate with free or blocked isocyanate groups, which are free of radiation under actinic effect with ethylenic unsaturated compounds under polymerization of reacting groups, optionally further of which from different compounds, that exhibit under actinic effect radiations with ethylenic unsaturated compounds exhibit show reacting groups under polymerization and optionally free or blocked isocyanate groups, optionally one or more active hydrogen containing compounds reactive with isocyanate, initiators, optionally solvent and optionally auxiliary materials and additives; and (3) substrates coated with coatings obtained from (I).

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• [XP] EP 1475399 A1 20041110 - DEGUSSA [DE]
• [Y] WO 0039183 A1 20000706 - BASF AG [DE], et al
• [Y] DE 10205608 A1 20030821 - DEGUSSA [DE]

Cited by
FR3011840A1; GB2433069A; WO2010136105A3; WO2015055935A1

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